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THE NEW YORK
**SCIENTIFIC AMERICAN:**
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RUFUS PORTER, EDITOR.

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☞ *See Advertisement on last page.*


From the Gem of the Prairie.

**God Bless the Honest Laborer!**

BY FRANK WEBBER.

God bless the honest laborer,
The hardy son of toil,
The worker in the clattering mills,
The delver of the soil,
The one whose brawny hands have torn
From earth her hoarded wealth,
Whose sole return for ceaseless toil
Is nature's boon, sweet health.

Bless him who wields the ponderous sledge,
Clad in his leathern mail,
That, safe as warrior's panoply,
Guards from the seething hail,
That gushes from beneath each stroke,
Each mighty crushing blow,
Who seeks to lighten labor's toil
Where ruddy fires glow.

Bless him who turns the matted sod,
Who with the early dawn
Hastens to gather nature's store—
Haste to the yellow corn!
Who plants in Nature's bosom wide
The fruitful golden grain,
And gives it to her guardian care,
The sunshine and the rain.

Bless him who lays the massive keel,
Who bends the trusty sail
That bids the ocean wanderer,
Safe battle with the gale;
Who rears the tall and slender mast
Whence floats to every breeze,
The stars and stripes of liberty,
As rainbow o'er the seas.

Bless him whose ribbed palace rests
Upon the heaving sea,
Who scorns the dangers of the flood,
The breaker-guarded lee,
Who in the ocean cradle sleeps
Calmy in storm-fraught hour,
Unfearing that his bark will quail
Before the tempest's power.

Bless him who gives each beauteous thought
A resting place, a name,
And twines its transient glories
With the fadeless wreath of fame;
Who sends it forth on every breeze,
And bids it live to bless,
While ceaseless clicks the slender type,
And groans the printing press.

Bless all who toil. God's blessing rest
On them with double power
Whose honest brow the sweat-drops deck
In every daylight hour.
Bless them though poor, and may they win
What wealth can never gain,
CONTENTMENT, with their lot on earth,
A balm for every pain.

Bless them, and may the workman's hand
That framed the giant earth,
That bid each star in glory shine,
That give to seas their birth,
Reserve on high a resting place
Within the realms of light,
For every honest son of toil,
When pass'd death's darksome night.

## OTIS'S MORTISING MACHINE.

FIGURE 1.

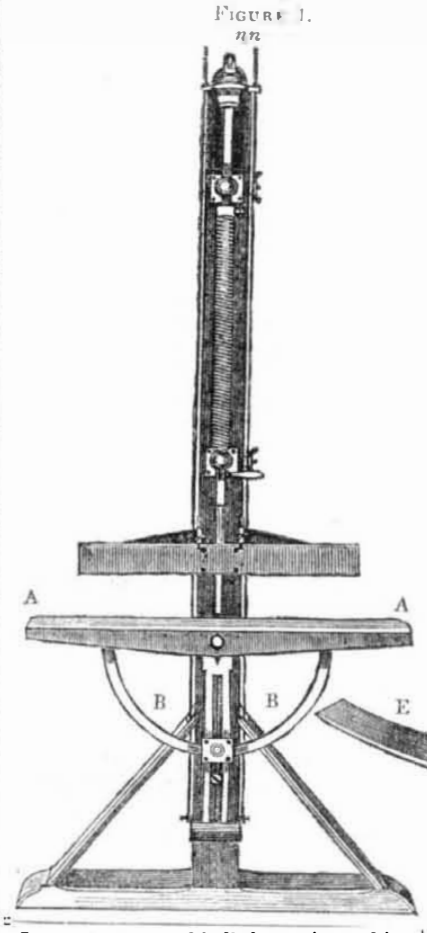
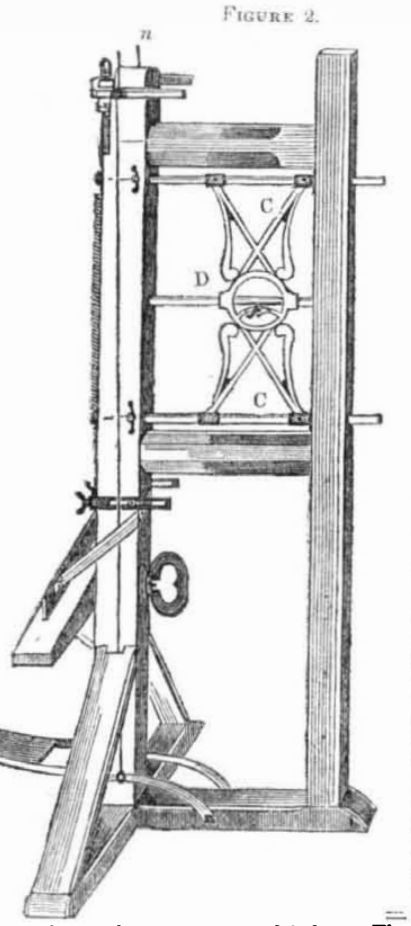



FIGURE 2.




INTRODUCTION.—Of all the variety of improvements in tools and machinery which have been introduced within the last few years, for facilitating the carpenter's business, there is none by which so much labor is saved, as by the improved mode of mortising for pannel doors, window blinds and frame work in general. And of the several mortising machines which have been introduced, none have been brought to so great a degree of perfection in all points, as that invented by Mr. B. H. Otis of Syracuse, and which is represented by the above engravings. This is one of the few new machines, which attracted particular attention and excited admiration at the great Fair, at Castle Garden: and although there were other machines for the same purpose there exhibited, some of which we have heretofore highly approved and recommended, and which are in some respects similar to this, yet for perfection and independence of construction and operation, this machine should be allowed to take precedence.

EXPLANATION.—Figure 1, represents a front view of the machine, and figure 2, a perspective side view. The frame work requires no explanation. It will be seen that the rest A A, is moveable, being supported by a stout screw bolt in the centre, and its position is regulated and secured by means of the semi-circular brace, B B, which is also secured by another screw, central below. The rest and braces may be elevated or depressed at pleasure. The vertical arbor which holds the chisel, and which appears partly enclosed in a spiral spring in front of the post in figure 1, is of the semi-revolving construction, and allows the position of the chisel to be reversed as often as occasion requires. This arbor is elevated by the spiral spring, and the force of the operation of spiral springs is regulated by means of a moveable collar to which one end of the spring is attached. The distance of the arbor from the post is regulated by two parallel sliding rods, C C, by the front head of which the arbor is supported and guided: the parallel position of the sliding rods is governed by means of an iron brace frame, D, and this with the sliding rods are occasionally moved forward or backward by a small crank and pinion which takes to corresponding teeth of a horizontal rack, which passes through the centre of the brace-frame. The chisel is operated by means of a treadle, E, to which the head of the arbor is connected by small rods or wires E. E. Every part of the machine is furnished with regulating screws whereby the whole is readily adjusted and secured. These machines are manufactured by Otis & Cottle, Syracuse, and for sale by J. Green, 119 Walker street, New York.

### Origin of the Upas Tree Story.

A real valley of death exists in Java: it is termed the Valley of Poison, and is filled to a a considerable height with carbonic acid gas, which is exhaled from crevices in the ground. If a man or any animal enter it, he cannot return; and he is not sensible of his danger, until he feels himself sinking under the poisonous influence of the atmosphere which surrounds him: the carbonic acid, of which it chiefly consists, rising to the height of eighteen feet from the bottom of the valley. Birds which fly into this atmosphere drop down dead; and a living fowl thrown into it dies before reaching the bottom, which is strewed with the carcasses of various animals that have perished in the deleterious gas.—[Dr. Thompson's Logic and Miracles.

### The Eldest Daughter.

The deportment of the older children of the family is of great importance to the younger. Their obedience or insubordination operates throughout the whole circle. Especially is the station of the eldest daughter, one of eminence. She drank the first draught of the mother's love. She usually enjoys much of her council and companionship. In her absence she is the natural viceroy. Let the mother take double pains to form her on a correct model; to make her amiable, diligent, domestic, pious; trusting that the image of those virtues may leave impressions on the soft, waxen hearts of the younger ones, to whom she may, in the providence of God, be called to fill the place of maternal guide.

### A LIST OF PATENTS

*Issued from the 22d of August to the 26th of August, 1846, inclusive.*

To Charles Pooly, of Charlton upon Medlock, England, for improvement in Carding Machines. Patented 22d August, 1846.

To Peter Moulton, of New Rochelle, N Y., for improvement in Netting Machines. Patented 22d August, 1846.

To Hiram S. Doolittle, of Kortright, N. Y., for improvement in Horse Rakes. Patented 22d August, 1846.

To Albert D. Bishop, of Brooklyn, N. Y., for improvement in Boom Derricks. Patented 22d August, 1846.

To John A. Roebling, of Pittsburgh, Pa., for improvement in Anchoring Suspension Chains for Bridges Patented 26th August, 1846.

To David G. Stafford, of Syracuse, N. Y., for improvement in Cooking Stoves. Patented 26th August, 1846.

To Anthony Smith, of Cumberland Valley, Pa., for improvement in Breaking and Scraping Hides. Patented 26th August, 1846.

To Samuel Swett, Jr., of Boston, for improvement in Spark Aresters. Patented 26th August, 1846.

RE-ISSUE.

To Herbert H. Stimpson, of Boston, Mass., for improvement in Cooking Ranges. Original Letters Patent, dated 17th May, 1844; Re-issued 8th August, 1846.

DESIGNS.

To Lathrop L. Bacon, of Le Roy, N. Y., for designs for Stoves. Patented 25th July, 1846.

To Samuel D. Vose, of Albany, N. Y., for design for Stoves. Patented 25th July, 1846.

To Samuel D. Vose, of Albany, N. Y., for design for Stoves. Patented 25th July, 1846.

To William Jackson, of Syracuse, N. Y., for design for Stoves. Patented 25th July, 1846.

To Alonzo L. Blanchard, of Albany, N. Y., for design for Stoves. Patented 25th July, 1846.

To Samuel D. Vose, of Albany, N. Y., for design for Stoves. Patented 25th July, 1846.

To John B. Clute, of Schenectady, N. Y., for design for Vases. Patented 25th July, 1846.

To Adam Hampton, of New York City, for design for Fireplace Grate. Patented 25th July, 1846.

To George W. & Henry Sizer, of Springfield, Mass., for design for Stoves. Patented 25th July, 1846.

To George M. Norton, of Rochester, N. Y., for design for Stoves. Patented 25th July, 1846.

To Ezra Ripley, of Troy, N. Y,, for design for Stoves. Patented 25th July, 1846.

To William P. Cresson, David Stuart and Jacob Beesley, of Philadelphia, Pa., for design for Stoves (assigned to W. P. Cresson.) Patented 25th July, 1846.

To James D. Sparkman, of Williamsburgh, and Melville Kelsey, Brooklyn, N. Y., for design for Carpets and other fabrics. Patented 25th July, 1846.

To Jordan L. Mott, of New York City, for design in Bathing Tubs. Patented 18th August, 1846.

To Samuel D. Vose, of Albany, N. Y., for design for Stoves. Patented 18th August, 1846.

To Calvin Fulton, of Rochester, N. Y., for design for Cooking Stoves. Patented 18th August, 1846.

To Samuel D. Vose, of Albany, N. Y., for design for Stoves. Patented 18th August, 1846.

To Samuel D. Vose, of Albany, N. Y., for design for Stoves. Patented 18th August, 1846.

To D. F. Goodhue & Charles Guild, of Cincinnati, Ohio, for design for Stoves. Patented 18th August, 1846.

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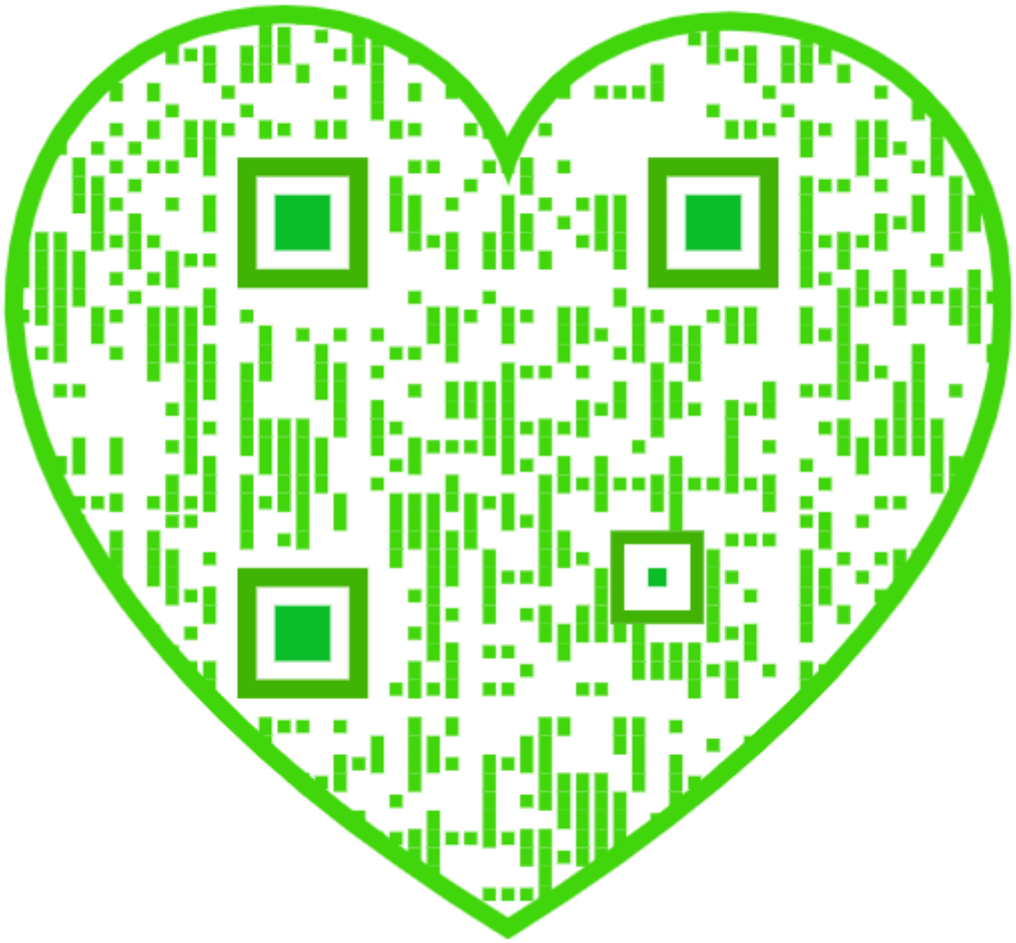

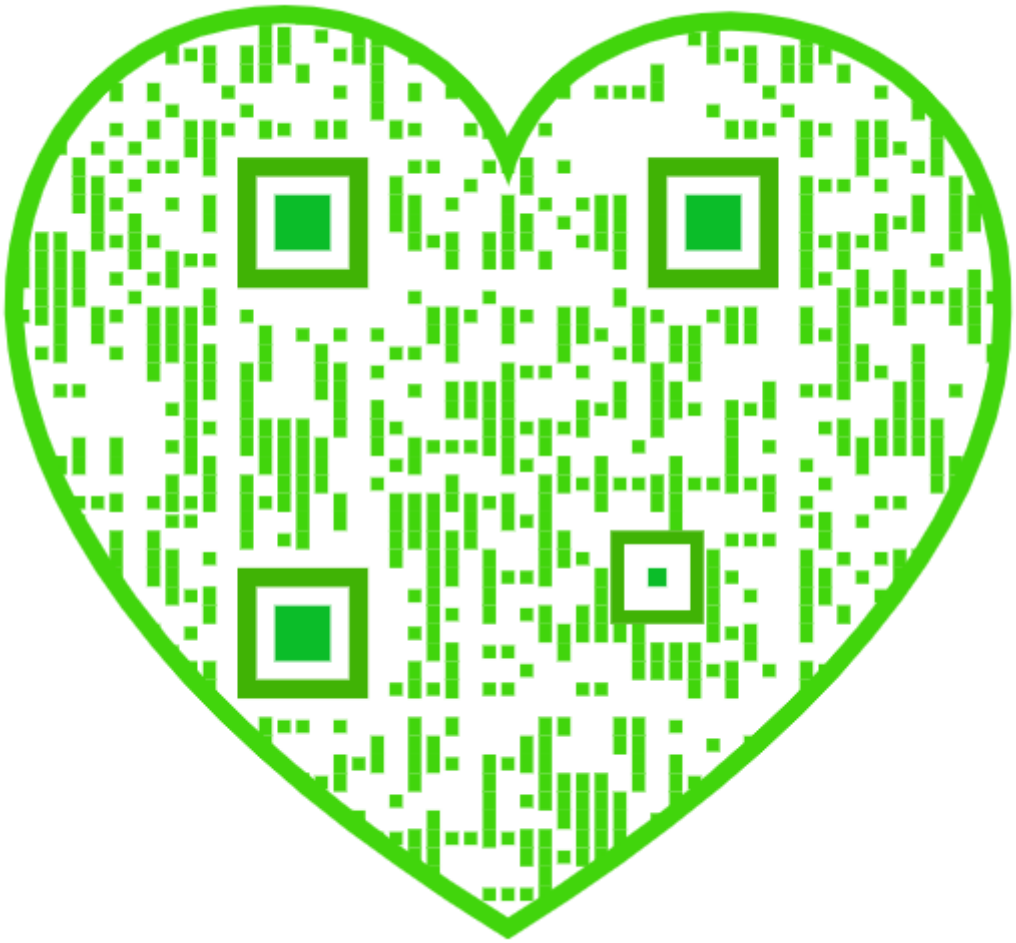

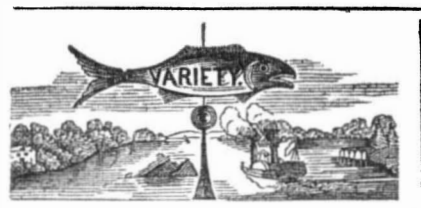


### The Miser.

The mouse crept out of the old stone wall,
To search for the precious store,
And he wandered silently through the hall,
And gnawed at the bolted door;
And the gray haired miser turned his head,
He turned his head and swore!

And there he sat with his sunken eyes,
The old man thin and pale,
While the wind in broken symphonies
Through the creaking blinds made wail,
And the raven croaked on the battlement
In the rising autumn gale.

Over his shoulder a direful look
At the bolted door gave he,
And his knees in his thread-bare breeches shook
Like the limbs of a withered tree,
When the shrill wind shrieks on the mountain top
In its midnight agony!

Ah! sad and fearful to look upon,
Were those glassy eyes of his,
For a soul shone out of them, had done
Much in its day amiss,
And thought was a dark and bitter thing
Unto that man, I wis!

A dark and bitter thing it was,
For his heard was dry and cold,
And he had been deaf to the widow's cause,
For the sake of his precious gold,
Counting it o'er year out year in,
In that room so dim and cold.

The old man gazed at the bolted door,
And muttered to himself,
For he thought of his heaps of shining ore,
And all his ill got pelf
In the strong iron chests, that side by side,
Stood locked on his cellar shelf.

Then paler and paler waxed his cheek,
For the storm-wind fiercer grew,
And the raven with a dismal shriek,
Against the window flew,
And the lightning through the pitch-black night,
The glare of a demon threw!

And the gloomy thunder moaned on high,
As the huge clouds dark with rain,
Like an army of ragged fiends swept by,
From the wind-tossed ocean main;
Slowly and solemn, and black as death,
Mid the roar of the hurricane.

Long years passed over that lonely house,
But the foot of man no more
Was heared by the small gray garret mouse,
That gnawed in the shattered floor,
Till a wild grim-visaged outlaw came
And unbolted that oaken door.

### Capital Punishment.

"If the people were not hanged for murder," said a young lady, we should not be safe in our beds."

A member of the Society of Friends, who happened to be present, and heard this argument for capital punishment, drew his chair up to the lady, and said—

"I want to ask thee a question or two. Dost thou think a man ought to be hung before he has repented?"

"Oh no—certainly not! No one ought to be sent into eternity until he is prepared for the kingdom of Heaven!"

"Good!" said the friend: "but now I have another question to ask thee. Dost thou think any man ought to be hung after he has repented and is fitted for the kingdom of Heaven?"

We need not say the lady was speechless.

### Ragged Schools.

There are schools in England for the admission of such poor and ragged children who cannot obtain admission in other schools. In America, the ragged portion usually stay at home, or rather in the street.

### Eruption of Mount Hecla.

A letter from Copenhagen, of the 21st Sept., says:—"We have just received news from Iceland to the 18th, and from Ferroe Islands to the 28th ult. Never in the memory of man has there been a more disagreeable summer than the present. Torrents of rain and storms succeeded each other without intermission.—Towards noon on the 22d ult., there was a sudden and violent eruption of Mount Hecla, the commencement of which was accompanied by several shocks of earthquake, extending to a radius of about seven French leagues. The eruption lasted about forty minutes; the flames rose to an immense height, and all the country around the volcano was covered with a thick layer of ashes."

### The Grand Aeolichord.

Having seen in several papers a well written notice of this excellent invention, but in which it was represented that the aeolichord was the invention of Mr. L. Gilbert, of Boston, we copied the notice without being aware of the error: but have since learned, from the inventor himself, Mr. Simon W. Draper, of Boston, that Mr. Gilbert is merely the proprietor of the right of the invention for the New England States. Mr. Draper is now in this city, and we are in hopes he will make arrangements to exhibit his invention before he returns.

### An American Citizen demanded by the Autocrat.

Major G. Tochman, a Polish exile, but now a citizen of the United States, and a practising attorney, at Washington, has been demanded by the Emperor of Russia, though his minister, Baron Bodisco, to be surrendered to the Russian Government, on account of his having participated in the Polish revolutionary war. The affair looks rather ridiculously to Americans; it being distinctly understood that the Autocrat will find himself not quite tall enough to reach an American citizen.

### Negative Goodness.

Some people seem to plume themselves upon the notion that they never did any harm, though every body can testify that they never did any good. So far as public evils can be cured by letting them alone, so far they are excellent reformers. An editor lately closed a flattering obituary by boasting that the deceased had never made an enemy during his life. Another editor remarked that in all probability he never undertook to do any good in the world, for no such person ever failed of making enemies.—[Ex. pa.

### Very Liberal.

The editor of the Hamilton Spectator offers to advertise for husbands for the young ladies of the town, "without fee or reward—save an invitation to the wedding." Perhaps he will decide to advertise for all the young ladies of the town in one general advertisement, without waiting for a special bargain with each.

### Curing Potatoes.

A Pittsburg paper mentions an instance of a farmer who found his potatoes so much diseased that he left them in the ground; and on ploughing the ground the next year, he found a fine crop of fine potatoes, perfectly healthy.—We much doubt the correctness of the statement.

### Splendid Hotel.

We are informed that Gen. Rud, of Erie, is about to erect a hotel on a grand scale at Niagara Falls. The house is to be 300 feet fronting the Falls, 300 feet on Main street; four stories high. The plot of ground covers about three acres. This will be the largest hotel in the United States.

### Benefit of Clergy.

The Courts of North Carolina have in three several instances lately, refused to colored criminals the *benefit of clergy*. There seems to be a certain queer idea connected with such refusal, though in reality the criminal is probably quite as well off without such *benefit* as with it.

An eastern cotemporary says, "the late earthquake was far from being the first known in these parts." How learned some people are.

### To Correspondents.

We would say to *several* who have enquired concerning the cord-making machine, that the same plan and principle will answer for cordage of any size, from one-tenth of an inch to one inch or even larger. There are none in operation at present, but arrangements are made for building some of these immediately.

J., of New Canaan, will be answered in our next: and if answsrs to any other communications are omitted or excluded from this number, for want of space or otherwise, they will appear soon

*Circular Saws.*—In answer to the inquiries of a respected correspondent concerning the best method of gearing and running a 38-inch circular saw, by water, from a pond or reservoir, we would decidedly recommend a horizontal wheel of some kind, and of a size proportionate to the quantity of water to be supplied. We cannot now go into a dissertation on the different kinds of water wheels, for want of suitable illustrations, but shall probably illustrate several kinds with engravings in our next. From a large drum on the vertical shaft of the water-wheel, the motion and power of the wheel may be carried directly to the pulley of the saw mandril, without employing any geer wheels whatever. There is no power lost, as some have supposed, by using bands or belts of extra length in communicating the motion. A large saw should be invariably mounted on the end of the mandril and outside of the second bearing, in which case it may be occasionally unmounted without disturbing the bearings. The cost of a saw of this description, with the mandril and bearings, is about $20.

*Iron Cylinders.*—In answer to the enquiries of A. M. W., we may say that a cylinder eight inches in diameter, made of wrought iron 1-8 of an inch thick, will sustain a pressure of 400 lbs. per square inch. His second question is very indefinite; but he may understand that a plain horizontal cylindrical boiler should be at least fifty times as large as the interior of the piston cylinder; and if the size of the engine is such as to require a rapid motion, the boiler may be 500 times as large as the piston chamber.

W. P. A., of Jamesville, is informed that mere alkalies will not affect either copper or lead. The water used in his engine probably contains some saline matter which becomes decomposed by heat, and may eventually destroy the boiler itself; but unless the disease is more perfectly defined, it is difficult to prescribe a remedy. We have nothing safer than pure lead for securing joints, but the least mixture of tin therewith should be carefully avoided.

"*Curious*" is informed that the *Acanthus* is a plant, the leaves of which resemble the thistle. In Architecture they are represented as ornaments in the capitals of Corinthian and Composite orders.

"*Rope Yarn.*" The length of a cable is 120 fathoms or 720 feet.

"*Observer.*" We suppose you refer to what is called the "Frizing operation," or the method of forming the nap of a piece of cloth into a number of little hard burrs or prominences, so as to cover nearly the whole ground This process is now performed by machinery.

"*Student.*" Hair is composed principally of animal matter, oil, silex, sulphur, carbonate of sulphur, &c. For any other information you must refer to some medical work.

"*H. E. H.*" Clocks and watches are always made to go a few minutes faster or slower than the sun, in order that they may be equal measures of the solar day, which is unequal.

"*Painter.*" Good indigo is a beautiful blue color, or dye, procured from a plant called, by the Spanish Americans, *Anil;* (pronounced *anycle,*) in the Linnæan system, *Indigofera.* The indigo used by dyers is procured from the leaves of the plant, which are laid in vats full of water, and left to ferment. The liquor is then drawn off into another vat, and after having been well stirred up, is again drawn off. The sediment remaining at the bottom is then exposed to the air until perfectly dry, when it is fit for use. Indigo is composed principally of mucilaginous, resinous, and earthy matter, with some oxide of iron,

The receipts of the South Carolina Railroad during ten days were $26,000. This looks favorable for the trade of Charleston.

*Case Hardening.*—We published the substance of the following mode of case-hardening iron, nearly a year since: but having more recently inserted certain extracts, in which the old and superseded method was described, whereby some may have been misled on the subject, we give this as the modern and best mode practised.

The iron to be case-hardened must first be made bright if not polished, and is to be heated to a bright red, and then rubbed or sprinkled with prussiate of potash, in fine powder, upon the part to be hardened. The prussiate being decomposed and apparently dissipated, the iron is to be quenched in cold water. The operator should be careful to avoid the fumes of the prussiate when applied to the hot iron, as it is very deleterious when taken into the lungs.

### False Pretences.

A wealthy gentlemen was lately induced to marry a lady on account of her pretended and reputed wealth: but so far from finding her rich, he was immediately called on to pay several hundred dollars of debts of her previous contracting. The gentleman proposes to *arrest* her for "raising money by false pretences;" but as she has no property, and as he has already "for want thereof, taken the body," it is difficult to see how he can find a remedy.

### Snoring.

It has been remarked that no persons of good disposition and steady habits, ever torment their fellow lodgers by snoring when asleep. The act of snoring consists of the spontaneous escape of those malignant feelings, which the author had not time nor opportunity to vent while awake.

### Girard College.

It is an old saying, that when a man begins to build, he knows not where he will stop. The truth of this has been elucidated in the difference between the original estimates and the actual cost for the erection of the Girard College—Pennsylvania's "pride and shame." The original estimate was $900,000, the actual cost $1,928,681, making the slight difference of $1,028,681 over the supposed cost when the work was begun.

The British Government mills at Plymouth, are employed night and day, grinding Indian corn for the suffering poor in Ireland. Some Yankee should send them a cargo of *pudding* sticks.

Lord Ross's great Dublin Telescope, is of such immense power, that it is proposed to take daguerreotype views of the mountains of the Moon.

The Quincy, Mass., quarries, employ over twelve hundred men, in getting out and dressing granite for the various building purposes in which it is employed.

There are said to be ten thousand laborers employed on the railroad between Hamburg and Berlin. They are paid the extraordinary wages of 90 cents per day.

A Canada paper states that the St. Lawrence is three feet lower than it was *ten years ago.* But how low was it then? That is the question.

Gen. Kearney's new Government at Santa Fe is busily engaged making new laws and mending the old ones. It must be a curious business.

It is reported that two new papers are to be started at Washington, one an abolition paper, and the other a pro-slavery. Let them discuss.

The Indians on one of the islands in Lake Huron, made the present year one hundred tons of maple sugar.

The crop of Indian corn grown this year in the Western States, is estimated at 500,000,000 of bushels; and that of wheat at 14,000,000.

It is said that fifteen hundred patents have been granted in the United States, on improvements and modifications of Stoves.

Steel Pens are manufactured at Birmingham at one cent per dozen. We have bought those of American manufacture cheaper than that.

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**Information to persons having business to transact at the Patent Office.**

*Continued from No. 5.*

ON RECOVERING BACK MONEY PAID FOR A PATENT NOT TAKEN OUT.

SEC. 60. When an applicant, who is a citizen or a resident alien, relinquishes or abandons the application for a patent, he must petition the Commissioner of Patents, stating the abandonment or withdrawal of his application; in which case twenty dollars will be repaid. If this withdrawal be of a foreign patent, two thirds of the fee is to be returned.

SEC. 61. In case of withdrawing a petition, the model deposited is by law retained.

SEC. 62. Whenever a patent is refused by the Commissioner, on the ground that the alleged invention is not new, or interferes with an existing patent, or is not sufficiently useful and important, or in case of two or more interfering, the party or parties against whom the Commissioner has decided, can have remedy by an "appeal to the Chief Justice of the District Court of the United States for the District of Columbia," by giving a notice thereof to the Commissioner, and filing in the Patent Office, within such time as the Commissioner shall appoint, his reasons of appeal, specifically set forth in writing, and also paying into the Patent Office, to the credit of the fund, the sum of twenty-five dollars. And it shall be the duty of said Chief Justice, on petition, to hear and determine all such appeals, and to revise such decisions in a summary way, on the evidence produced before the Commissioner, at such an early and convenient time as he may appoint, first notifying the Commissioner of the time and place of hearing, whose duty it shall be to give notice thereof to all parties who appear to be interested therein, in such manner as said Judge shall prescribe. The Commissioner shall also lay before the said Judge all the original papers and evidence in the case, together with the grounds of his decision, fully set forth, in writing, touching all the points involved by the reasons of appeal, to which the revision shall be confined. And at the request of any party interested, or at the desire of the Judge, the Commissioner, and the examiners in the Patent Office, may be examined, under oath, in explanation of the principles of the machine, or other thing, for which a patent, in such case, is prayed for. And it shall be the duty of said Judge, after a hearing of any such case, to return all the papers to the Commissioner, with a certificate of his proceedings and decision, which shall be entered of record in the Patent Office; and such decision, so certified, shall govern the future proceedings of the Commissioner in such case: Provided, however, That no opinion or decision of the Judge in any such case, shall preclude any person interested in favor or against the validity of any patent which has been or may hereafter be granted, from the right to contest the same in any judicial court, in any action in which its validity may come in question.

REMEDY IN EQUITY FOR PATENTEES.

SEC. 63. In cases where patents are refused for any reasons whatever, or when there shall be two interfering patents, remedy can be had from the decisions of the Commissioner of Patents, or from the Chief Justice of the United States Court for the District of Columbia, by bill in equity; and the court having cognizance thereof, on notice to adverse parties (and when there shall be no adverse party, a copy of the bill shall be served upon the Commissioner of Patents when the whole of the expenses of the proceedings shall be paid by the applicant whether the final decision shall be in favor or otherwise, and other due proceedings had, may adjudge and declare either the patents void in the whole or in part, or inoperative and invalid in any particular part or portion of the United States, according to the interest which the parties to such suit may possess in the patent or the inventions patented, and may also adjudge that such applicant is entitled, according to the principles and provisions of this act, to have and receive a patent for his invention, as specified in his claim, or for any part thereof, as the fact of priority of right of invention shall, in any such case, be made to appear. And such adjudication, if it be in favor of the right of such applicant, shall authorize the Commissioner to issue such patent, on his filing a copy of the adjudication, and otherwise complying with the requisitions of this act: Provided, however, That no such judgment or adjudication, shall affect the rights of any persons,—except the parties to the action,—and those deriving title from or under them, subsequent to the rendition of such judgment.

ON FILING THE SPECIFICATION AND DRAWING AS A CAVEAT.

SEC. 64. "Whenever the applicant shall request it, the patent shall date from the time of filing the specification and drawings, not, however, exceeding six months prior to the actual issuing of the patent: and, on like request, and the payment of the duty herein required, by any applicant, his specification and drawings shall be filed in the secret archives of the office, until he shall furnish the model, and the patent be issued, not exceeding the term of one year, the applicant being entitled to notice of interfering applications."—Act. of 1836, section 8.

SEC. 65. A full description of the invention is required, to enable the Commissioner of Patents to judge of inferences.

SEC. 66. All the applications will be examined, and patents issued, in the order of time in which the proper documents are completed.

EXHIBITION OF MODELS AND MANUFACTURES.

SEC. 67. Models of unpatented machines, specimens of compositions, and fabrics, and other manufactures, or work of art, will be received and arranged in the national repository of the Patent Office.

SEC. 68. The personal attendance of an applicant at the Patent Office, to obtain a patent, is unnecessary. The business can be done by correspondence, (free of postage,) or by an attorney.

OATHS OR AFFIRMATIONS.

SEC. 69. Any magistrate, having general authority to administer oaths, is qualified to take depositions in matters relating to patents.

***Forms which may be used in making applications at the Patent Office.***

FORM OF PETITION.

SEC. 70. To the Commissioner of Patents:

The petition of Sebastian Cabot, of Cabotville, in the county of Hampden, and State of Massachusetts,

RESPECTFULLY REPRESENTS;

That your petitioner has invented a new [and improved mode of preventing steam-boilers from bursting,] which he verily believes has not been known or used prior to the invention thereof by your petitioner. He therefore prays that letters patent of the United States may be granted to him therefor, vesting in him and his legal representatives the exclusive right to the same, upon terms and conditions expressed in the act of Congress in that case made and provided; he having paid thirty dollars into the Treasury, and complied with other provisions of the said act.

SEBASTIAN CABOT.

FORM OF SPECIFICATIONS.

SEC. 71. To all whom in may concern:

Be it known that I, Sebastian Cabot, of Cabotsville, in the county of Hampden, and State of Massachusetts, have invented a new and improved mode of preventing steam-boilers from bursting, and I do hereby declare that the following is a full and exact description:—

The nature of my invention consists in providing the upper part of a steam-boiler with an aperture in addition to that for the safety-valve: which aperture is to be closed by a plug, or disk, of alloy, which will fuse at any given degree of heat, and permit the steam to escape should the safety-valve fail to perform its functions.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation: I construct my steam-boiler in any of the known forms, and apply thereto gauge-cocks, a safety-vale, and the other appendages of such boilers; but, in order to obviate the danger arising from the adhesion of the safety-valve, and from other causes, I make a second opening in the top of the boiler, similar to that made for the safety-valve, as shown at A, in the accompanying drawing: and in the opening I insert a plug or disk of fusible alloy, securing it in its place by a metal ring and screws, or otherwise. This fusible metal, I in general, compose of a mixture of lead, tin, and bismuth, in such proportions as will insure its melting at a given temperature, which must be that to which it is intended to limit the steam, and will, of course vary with the pressure the boiler is intended to sustain. I surround the opening containing the fusible alloy by a tube B, intended to conduct off any steam which may be discharged therefrom. When the temperature of the steam, in such a boiler, rises to its assigned limit, the fusible alloy will melt and allow the steam to escape freely, securing it from all danger of explosion.

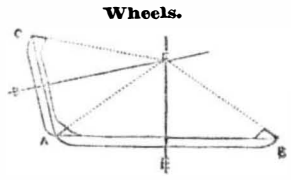
What I claim as my invention, and desire to secure by letters patent, is the application to steam-boilers of a fusible alloy, which will melt at a given temperature, and allow the steam to escape, as herein descrided; using for that purpose any metallic compound which will produce the intended effect.

SEBASTIAN CABOT.

Witness, { JOHN DOE, RICHARD ROE.

(*To be continued.*)

**To ascertain the true Bevel for Geer Wheels.**




Suppose two wheels A B and A C are to work together in the relative positions represented in the cut. Extend a line in the direction of the axis of each, D and E, till they intersect each other as at F. Then a line from the point F to the peripheries of each wheel, as F A and F B, will describe the true angle or bevel for the teeth of each. This is a general rule and will apply in all cases where geer wheels of different sizes and positions are to work together

**Second Class Cars.**

We are not advocates of unnecessary separations or distinctions in the social world, least of all would we multiply occasions by which the more wealthy can distinguish themselves from the less wealthy. It is on this ground that we have always considered the use of first and second class cars, where the difference consisted only in the fare paid, as both foolish and useless. Experience has proved that this is so. If the second class cars are good and comfortable, every one will ride in them, if they are not, no one will.

There are, however, many people who travel who are not fit or decent companions for the large mass of travelling public. Filthy in their persons and dress, few would like to sit near them, much less upon the same seat.—Few are willing to be on such intimate terms with the dark race, even if theoretically they preach up the perfect equality of all men.—Hence there are two distinct classes of passengers, which it is expedient should be separated from the rest. No regulations which enjoin that loafers should occupy this car and negroes that, would be tolerated—in fact there are special laws in some States preventing the enforcement of such regulations, as far as the negroes are concerned.

We propose the following remedy for this difficulty: Let a separate car, or compartment be provided in each train for the negroes, and another for the loafers. Let it be understood that a lower price should be paid for a passage in these cars, and no difficulty would be found in inducing each class to take their own car. The negro when he applies for a ticket is seated with his own people in a good and comfortable car, and as a compensation for his doing so, is carried at a lower rate.—Does a loafer want a passage, show him into the loafers car, (only be careful not to give it this name,) and tell him he can ride there for half price—he will in most cases quietly take his seat.

Now and then it is true, an obstreperous subject will be found, but if he is let alone, the temptation of half price, and the feeling that he is out of his place will pretty surely draw him out.—[R. R. Journal.

## HUMOROUS.

**To my Blithsome Sister.**

BY JAMS H. BROWN.

Little fairy,
Light and airy,
Gladsome, blithesome little creature,
Ever cheerful,
Never tearful,
Sweetness beams in every feature;
In thy face, not a trace
Can be seen of aught like sorrow,
Never sad, always glad,
As to-day art thou to-morrow.

Golden tresses
Wind caresses,
As thou comest lightly bounding,
Zephyrs bringing,
The sweet ringing
Echo of thy life resounding;
And that smile, all the while
On thy dimpled cheeks is playing,
Tells thou art glad at heart,
Which with joy thou art obeying.

Happy ever
Sorrow never
Come to thee, thou flower rarest,
If but lightly,
Then less brightly
Would the smile be which thou wearest;
Thus to thee, may life be,
May kind Fortune e'er caress thee,
Peace be thine, sister mine,
God above, I pray will bless thee!

**Strength vs. the Galvanic Battery.**

A smart son of Hibernia walked into a place the other evening where a gentleman was practicing with a galvanic battery, and was invited to see if he could retain the handles in his fists. "Be Jabers! its me can do that same," replied the son of Erin. He took them, and the genman gave him a considerable shock.

"A little more if you plaise—I can hold 'em."

Then little more was tried, and a "grain more" was asked for, and put on.

"I guess I can hould 'em" said Jemmy, "a least bit more."

The gentlemen applied the whole force of the machine, and Jemmy's arms began to twitch and jump as though he had the shaking palsy, and his fists were firmly set on the handles, maugre all attempts to let go.

"Take 'em away" bawled Jemmy, as he danced to and fro—"take 'em away; the little divil *houlds me.* Shaint Paterick and the Jabers to you! why don't you take 'em away—he'll twitch every bone out in my body."

The gentleman put a stop to the operations of the machine, and Jemmy, shaking himself to see that he was whole, hurried out of the room casting a futive glance back at the machine as though he were afraid of another attack.—[Portland Journal.

**A Music Critic.**

A Dutchman at the concert, on Monday evening, who, if not a poet, showed himself a very clever impromptu rhymster, being asked his opinion of Sivori's musical powers, broke out in rapture as follows:

"Mynheer Sivori's von pig little man:
He do pig things vot no other man can.
His fiddle spheak fine, den spheak very coarse.
It spheaks low Dutch petter as Pouck's vite horse,
He plays on three shtring petter as four;
And den only two shtrings petter as more.
But as Yankee say, to do "vot's tall"
He plays on one shtring petter as all!"

**Oh, what a Joke.**

We find it stated as a fact of recent occurrence, that a wealthy young gentlemen in Kentucky formed an acquaintance with a beautiful brunette, whom he subsequently married. But judge of his feelings a few days after, when he was waited on by a man from Tennessee, who boldly claimed the lovely bride, as his slave, who had run away from him some time before.

Some sage cotemporary says "an idle brain is the devil's work-shop." Surely he can have but little elbow room in the brains of some idlers.

Goethe says of certain books that the only intelligence they are calculated to communicate, is that the authors thereof *knew something.*

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## NEW INVENTIONS.

To the description of the following inventions, recently entered at the Patent Office, we have no other clue than what may be gathered from the specified claims.

BY KASSON FRASER.

26th Sept. 1846.

*Improvement for Hames for Harness.*

Claim: the attaching the curved clipps to the front sides of the hames of double joints so as to render them self adjustable, and to keep the draught directly in a line from the point of attachment of the clipps to the hames, to the point of attachment of the tugs to the whipple-tree

—

BY WILLIAM W. ALLOTT.

26th Sept. 1846.

*Improvement in Kiln Drying Grain.*

Claim: a series of two or more hollow cylinders, or other proper shaped vessels, combined, arranged, connected and operating together; and with a hot air chamber, or any proper equivalent therefor, for the purpose of acting upon grain or other matter (to be dried by exposure to the heat or hot air) as above specified. Also: the combination with the cylinders or their shafts, of suitable mechanism (such as the wedges and other contrivances, or other proper equivalent) by which the ends of the said shafts may be elevated or depressed in order to change the angles of inclination of the said shafts or either of them to the horizontal, and thereby cause the grain or other matter to move faster or slower through the cylinders, according to the velocity required, during the operations of drying the same.

—

BY ELIJAH CHAPMAN.

26th Sept. 1846.

*Improvement in Carriage Brakes.*

Claim: the combination of the bars, rods, and springs, and the levers, for the purpose of making pressure on opposite sides of the wheels whenever the break is operated.

—

BY JAMES MILLER.

26th Sept., 1846.

*Improvement in Rotary Engines.*

Claim: the combination with the revolving disk in rotary steam engines of a valve having the form described, or any modification thereof analagous in design and effect, by which the pressure of steam upon the valve is directed wholly or mainly towards its centre, or axis of motion, and upon its axle and (for the purpose of avoiding friction) only so much on the sliding part as may be desirable or necessary to keep the valve closed on the sliding surface against the revolver. Also, the combination and arrangement of three cams with two valves, and escapes for the steam at recesses behind the valves.

—

BY E. B. BIGELOW.

29th Sept., 1846.

*Improvement in Looms for Weaving Coach Lace.*

Patent granted 20th April 1837; reissued 25th Sept. 1846. Claim: the method of forcing or pushing the wires, over which the figure has been wrought, towards the instrument or instruments by which they are to be withdrawn when this is so combined with the loom, as to be operated by mechanical means, whether the requisite motions be given to it by the mechanical agents herein enumerated or their equivalents. Claim 2: method of withdrawing the said figuring wires, from the figure wrought over them, and introducing them under another portion of the figuring warp, by means of pincers, pliers, forceps, or other analogous device, so operated as to receive the requisite movements by machinery, whether tbe movements be given by cams, levers and slides, or by their equivalents. Claim 3: combination with either or with all of the three items covered by the foregoing claims, the employment of a guide resting against the last of the series of figuring wires to preserve the machinery which acts thereon, in the required position relatively to the wire to be withdrawn. Claim 4: making the shuttle boxes detached from the lay, that the lay may be free to move independently of the shuttle boxes; and finally, claim 5: making the shuttle boxes, in combination with the method of withdrawing the figuring wires from under the figures wrought over them, and introducing them under the figuring warp, whereby I am enabled to locate and operate this machinery without the impediment or interruption to which it would be subject if the shuttle boxes were attached to and moved with the lay.

—

BY CHARLES BISHOP.

26th Sept. 1846.

*Improvement in Carding Machines.*

Claim: the method of carding fibrous substances by the action of the straight surface of a belt of cards, stretched and carried around rollers when this is combined with one or more similar belts of cards; also, in combination with such belts of cards the tables employed for keeping their acting surfaces in the proper line of action.

—

BY JACOB CORNELISON.

26th Sept., 1846.

*Improvement in Cookıng Stove.*

Claim: the construction and arrangement of the flues, combined with the double oven stove, having a fire chamber between them.

—

BY BENJAMIN NORTON.

26th Sept., 1846.

*Improvement in Machinery for Rolling Hoop Iron.*

Claim: the combined use of the curved trough or receiver, with a pair of rollers for the purpose of conveying the strand to the front of the rollers, in combination with the employment of the second groove or grooves in the lower roller, and thereby admitting of the widening out of the collars; the said combination and arrangement being made for the purpose; not intending, however, to limit myself to the exact form of the receiver, as this may be varied without changing the principle of action.

### Another Castle in the Air.

It is reported that an ingenious printer of Albany has invented a new plan for a steamboat and mode for propelling the same, which he confidently *expects* will travel sixty miles an hour; and such is deemed the immense importance of the invention, that he is afraid to communicate the peculiarities of his plan, lest the world should rob him of his right therein. Far be it from us to discourage the enterprising inventor; but this is not the first nor second similar notice of a similar discovery which we have seen within three years past, and if this is not the last that is heard of the invention, its fate will be different from that of many others.

### The Magnetic Variation Compass.

It is generally known that mariners and others are often much embarrassed in their calculation by the variations of the polar needle from the true north. It is now reported that J. R. St. John, of Buffalo, has invented an instrument calculated to avoid, or readily detect these variations at all times and places, and under all circumstances, by sea or by land, and in vessels of wood or of iron. The construction of the instrument is said to be simple and its peculiar operation is supposed to be effected by a current of electricity: but as the inventor intends to secure patents in Europe, it is not deemed expedient to publish a description of the invention at present.

### A Self-acting Press.

The Germantown Gazette speaks of a press recently introduced in that place, and which operates on a self-acting principle: that is, the pressure is produced by the gradual descent of the cheese or other article which is subjected to pressure. It must be understood, however, that as much expense of power is required to elevate the pressed article, as would be required to produce the pressure by other means.

### Stage Coaches Superseded.

We are informed that Messrs Goold & Co., of Albany, formerly successful and popular coach makers, have like many others, turned their attention to the building of railroad cars. They have lately completed a dozen or more elegant cars for the Hudson and Mohawk railroad. One thing is certain: that the introduction of railroads, instead of diminishing, has greatly increased the demand for mechanical industry.

### New Blind Adjustor.

INTRODUCTION.—We believe there are very few of those families who occupy houses furnished with window blinds, but would be glad to see some method introduced for opening, closing and fastening of the blinds, without opening the windows or raising the sash. As most blinds are mounted and arranged, it is requisite not only to raise the sash but to extend the arms out through the window, to relieve the blinds from their back fastenings, which is rather an unpleasant task, especially on the approach of a sudden squall of wind rain and dust. But by the improvement here introduced, all this trouble may be avoided.

EXPLANATION.—The cut presents a vertical and sectional view of a window with a pair of blinds A B, closed. Connected with the hinges are two small toothed wheels C D, two or three inches in diameter; and two horizontal brass rods extend through the frame or caseing of the window, and have screw threads cut on the outward ends thereof, which threads take to the teeth of the wheels; so that by simply turning these rods,—which is done by means of ornamental knobs E F,—the blinds are opened or closed as occasion may require, and held fast in any position in which they are placed, and that without any other fastening. Should it be enquired where and what price these "blind adjustors" may be obtained, we answer, they cannot be obtained any where, and of course, there is no price to them. But should any person appear disposed to manufacture them, they will be allowed exceedingly liberal terms, and can probably afford to manufacture them for fifty cents per pair.

HARVESTING MACHINES.—"The invention of harvesters is yet only in its infancy; and *there is no complete implement yet invented* so far as we are aware; though there are two which have attained a good degree of success. It is not to be doubted that great improvements in this way will be brought to light in the course of a few years. Hence it becomes men of small means to be a little shy of dipping too deep at once.

In relation to several machines which we have at different times noticed during the last year or two, we state frankly what are their advantages and effects, so far as we have been able to learn them; and if in this we shall tread upon the toes of any who are in the sale of machines, we shall be sorry; but we shall only say what we have to say in answer to enquiries and in conversation with farmers relating to the same matters. And we will begin with our friend in Wisconsin.

ESTERLY'S HARVESTER.—The plan of this was to cut off the heads of the grain, simply; when the grain so cut was to be stored in bins or cribs till ready to be thrashed. This plan has several great advantages. It saves the handling of a large amount of straw; and when the wheat is cut, it is secured in a very few minutes out of the way of foul weather or any such contingency; saving all that labor implied in raking, binding, shocking and stacking.

On the other hand, most farmers want their straw for use. The difficulty of cutting in this mode, however, has not been as yet overcome, the reel which does the cutting piles up the heads close behind itself, requiring one man to keep them away; and in spite of him many will be taken on the reel and carried over upon the standing grain. The mode of steering this machine, which is by a wheel, does not work, if we are rightly informed, very satisfactorily.

We have not heard from the implement above spoken of during the present season:—and some or all of its defects may have been remedied.

DARLING'S HARVESTER.—This cuts off the head, thrashes, cleans, and puts in bags the clean wheat. We are not aware that any of them have been built in this section, and can say nothing of its operation. The general impression is, among farmers, that wheat is not ready to thrash when it is ready to cut, and right or wrong they are in the way of sticking to it for the present. The inventor of the implement spoken of assured us they would be obliged to give it up; and we agree with him that they will, if his machine gets into use.—The cost of this sort of harvester is an objection with the small farmer, but with the largest farmers would not perhaps be.

HUSSEY'S REAPER.—This machine has been long in use, and is pretty well known. It will cut, of wheat, yielding 20 bushels per acre, if snugly driven, with the same pair of horses, from 15 to 20 acres per day. It requires—to do good business—to be driven with as high a rate of speed as can well be reached without a trot—and being pretty highly geared is somewhat likely to get out of order. It will, however, cut wet or green wheat, and will do tolable business in the way of mowing. The raking off is a hard piece of work; though a stout man will follow it all day. A great disadvantage attending this implement is the fact that the wheat is raked off into its own path, and must be bound as fast as the instrument proceeds, requiring from five to seven men in attendance, who must all stop work or be stopped with it.

MR. CORMICK'S REAPER.—A large number of these have been in use among us this past season, and we believe that they have given a good degree of satisfaction. The cutting apparatus is a straight sickle edge; which possesses some advantages over that adopted by the one just named, at the same time it is liable to some other disadvantages. It plies easier while at work, and of course, requires less power: but it will not cut grass; nor very damp or green grain, and must as a consequence be used on straw well dried and ripened. The raking is an enormously hard process, and will test the energies of a stout man; and when done the grain is left in an uneven condition for binding. It is, however, out of the way of the machine, and may be taken care of at leisure. The implement is simple and not easily out of order, and will cut, with one pair of horses, from 10 to 18 acres per day. We believe it comes fully up to the warrant of the patentee, which does not, however, include perfection in all the details—a fact which leaves room for some harmless suspicion on the part of those purchasers who think they have secured an implement without defect.

GREGORY'S HARVESTER.—We have heard but little of this and have not seen it. W. N. Davis, Esq., of Kendall county, informs us that it is a first rate machine. It cuts after the same general principle with Hussey's and McCormick's. The cutting apparatus is constructed much like a great number of sheep shears, and the raking is so managed that it can be done in a very easy and satisfactory manner. It is also driven with ease by one pair of horses, and cuts nine feet in width, This is all hearsay, but well attested.

CHURCH'S MACHINE.—Mr. Davis is the owner of one of these implements, for which he would accept, as he informs us, of no money, if he could not purchase another. It cuts, thrashes, cleans, and puts in bags; costs $500, and requires ten horses and two men for its operation. This looks rather formidable, and will confine its use to the class of large farmers. It will harvest 400 bushels of good wheat, yielding 25 bushels per acre, in one day, if closely driven. The makers of it in this region, are Messrs. Willoughby. Those who wish to correspond with Mr. Davis on the subject, will address him at Oswego, Kendall county, Ill.

It is a matter of arithmetical calculation how much can, on the whole, be done by each of the machines yet invented. One man will require on the one hand $125, one or two span of horses $125, On the other hand it will require [redacted] worth $25, and eleven men [redacted] any man to say which he can the[redacted] command. If he be a small farmer, having not over 20 acres to harvest, it would not be with our advice that he would buy a machine. If he has a larger, he can put horses in the place of men, and drive his work through quicker than by reliance on cradles alone. This is not our opinion only, but of a skillful and enterprising farmer who has tested more than one harvester.—[Prairie Farmer.

At the storming of Monterey Gen. Worth took seven different batteries, in which he lost 300 men.

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NEW YORK, OCTOBER 31, 1846.

### THE GREAT FAIR.

The 19th Annual Exhibition of the American Institute closed on the 23d inst. Almost universal preference has been given to the Castle Garden over Niblo's. It has been found very convenient for the floating population of the city that are continually arriving and departing by the steam boats. For marine experiments it has decided advantages. The Fair was visited by upwards of 200,000 persons, and the receipts amounted to about $15,000. There were 2000 exhibitors. Nearly $2,500 were awarded in premiums. This annual exhibition of the products of our country is of national and individual benefit. It throws light on what should be the policy of the General Government, and affords individuals an opportunity to make known to the public their improvements. Many of the exhibitors made very considerable sales, secured contracts and received orders. Some articles of real worth were doubtless neglected, while others of less importance received marked attention. Such occurrences must be expected and should be charitably viewed.

Of the numerous addresses we heard but one —that on the Anniversary. The topic, Protection to American Labor, however appropriately chosen, was not happily set forth.

MARINE EXPERIMENTS.

These excited much interest. The sight of an individual in an encasement impenetrable by water, descending from a vessel into the deep and then emerging after having walked a considerable distance on the bottom, created lively emotions. The raising of a sunken vessel by means of what are termed Camels, an invention of Capt. Taylor, was not less exciting. These camels are made of Goodyear's Metallic Gum Elastic or Vulcanized India Rubber, which is not materially affected by heat or cold. The interior or air chamber is made of two thicknesses of the strongest canvass coated with this composition. Over these is a covering of duck cloth rather smaller in diameter than the interior canvass, to relieve them of much of the pressure. A net work of ropes three-fourths of an inch in circumference completes the camel. Each of these ropes will support 700 lbs. of pressure. These inanimate animals are placed under the vessel and then filled with air, by means of a hose of the same material, and a force pump on deck.—The committee suppose them capable of floating a vessel of the line over bars with about two-thirds of its usual draft. They are all filled simultaneously by means of connecting hose. Their simplicity and admirable contrivance render their use in stormy weather easy, and in case of her going to pieces, will serve as life preservers. It is designed to use this invention of Capt. Taylor's in facilitating the attacks of our naval force on Mexican cities.

### Increase of Crime.

It is admitted by all parties that crimes of the most outrageous and unprecedented character abound throughout this country, and [illegible]ly throughout the world, to a degree [illegible]lleled. Crimes which cannot [illegible] a respectable newspaper, ap[illegible]y day occurrence, in addi[illegible]s of murders ,arsons and rob[illegible]d there appears not the least prospect of either reform, or improvement of public morals, notwithstanding all the popular preaching of an approaching temporal Millenium of universal righteousness, when every body will join the churches and live in harmony

### A New Coal Mine.

Mr. Ross of the Providence Express, states that a new coal mine has lately been discovered at Valley Falls, about a mile from Pawtucket. It is about fifteen feet below the surface. The vein is four feet thick, and of excellent quality, both of anthracite and red ash.

### Mesmerism Defeated.

Nothwithstanding our perfect conviction and implicit confidence in certain theories which are promptly rejected by the mass of mankind, we have never been able to exercise any considerable faith in the truth and reality of clairvoyance or mesmerism, further than a peculiar sympathy between human beings was concerned. This art has been recently put to the test in Ireland, and its impotency fully established. Some time since, an unbeliever in the mysteries of mesmerism deposited a £100 note in one of the Dublin banks, to remain there for six months, and which was to become the property of any person who, without opening the envelope in which it was contained, should describe every particular respecting the note, such as it its number, its date, the bank in which it was payable, &c.—During the time specified, several communications were received from different parts of England, and some from America, purporting to describe the note; but at the end of six months and 17 days, the envelope was opened, and the note proved to be a genuine check, payable to Oedipus or bearer; but none of the pretended descriptions of it were found to correspond in the least degree.

### The Fools who look forward.

On the recent occasion of opening the Miami Railroad, Professor Mitchel having been alluded to in one of the toasts, mounted the table and made a very eloquent and amusing speech. He said that, after he had equipped himself to commence the survey of the Little Miami Railroad, he called at the post office to see if there were any letters for him. There he met with Mr. ——, who inquired "what he was up to now?" "Why," said the Professor, "I am going to survey the route for the Little Miami Railroad." "Well," said Mr. ——, bursting into a monstrous horse-laugh—"you are the d——dest fool I ever did see!"—Mr. ——, being present at the table, rose, and with great *sang froid*, said, "I'll take that back, Professor; I'll take it all back." Of course, the company were much amused as well as edified by the occurrence. But this shows how trivial is the risk which any man runs by opposing with all his might, every project for the advancement of public improvements. When the fallacy of his position is established, he has only to say "take it back," and his errors are forgotton.

### News by Lightning.

In less than six months from this time, we expect to be able to give reports of the Boston, New York, and other eastern markets, up to the hour that our paper goes to press; and news from England will be received here before the steamers reach the dock in Boston.—This will give a death blow to private expresses, and unfair speculation in produce.—We have recently received several letters from our old friend and fellow townsman, Mr. O'Reilly, who is the superintendent of the Atlantic and Mississippi Magnetic Telegraph Company, and is now engaged in putting up the wires between Philadelphia, Pittsburgh and Wheeling, informing us that it is his design to complete the line to Columbus and Cincinnati, during the coming winter. That a large share of the stock is already subscribed, and he expects to visit the important places along the line in a few days, to give the citizens an opportunity to take stock, if they desire it, and to make arrangements for procuring materials for the work, &c.—[Columbus (O.) paper.

### Taking it Easy.

Mr. Abel James, of Wood county Va., from whom eight slaves lately deserted, bears the loss very good naturedly. He says, '*Old Jess*' has earned his freedom, and as for the rest of them, why, if they will do as well as one who ran away three years ago, joy go with them! The one of whom he thus speaks recently wrote to him, representing that he had a valuable farm near the Lake under good cultivation and was in every respect comfortably and happily situated. Mr. James says that if those who last escaped, find good homes he is satisfied.

The New England Iron Company, at Providence, are making twenty tons of first rate railroad iron daily.

### The Distance to the Sun.

Mr. Editor :—It is unquestionably the generally received opinion that the distance to the sun from our earth is 95,000,000 of miles. This is one of the greatest errors among the many in the Copernican system of Astronomy. That the sun is 95,000,000 of miles from us, and forms a radius line of that immense distance, and we, as the inhabitants of this globe do revolve about the sun six times as far, making 570,000,000 of miles in the time of 365 1-4 days, is most certainly one of the greatest humbugs in this modern age.—Yet this doctrine is taught in our schools, and propagated by the most learned in the colleges. It is estimated in Daboll's Arithmetic that it would take a *cannon ball* over thirty-two years to fly from our earth to the sun moving at the rate of a mile in 7 1-2 seconds.—Yet we to revolve round the sun, must go six times as far in one year; consequently more than 133 times as fast as a cannon ball at its first discharge. As a geometrician, surveyor, navigator, and astronomer, with much practical life, and by many figures and lines, I venture to proclaim that man cannot be found on God's globe who can determine, by figures and lines, that the sun measures in distance any more than 36,000 miles from the centre of our earth to her centre in the system. In measuring the distance to the sun, astronomers have substituted the diameter of the supposed circuit of our earth about the sun for a base line from which to measure the distance to the sun. I apprehend that it is upon this false supposition the whole of the Copernican system rests. How, in reason, can a base line 190,000,000 of miles be instituted, from which to measure the distance of the sun, when we have, in reality, a base line of only 7200 miles, according to clock motions for the diameter of our earth from which to measure the distance of the sun as an inaccessible object? We have a base line of 7200 miles only, and lines of observation made on the rising and setting sun, 180 degrees apart, on the equatorial line, must decline to the centre of our earth 4 miles to every degree at sea, according to practical navigation, thus guaging the lines of observation to the tangent line of our earth on the centre of the sun. Consequently when the lines of observation has been extended far enough to extinguish the base of the earth, the distance to the sun must be determined, which is precisely 36,000 miles from the centre of our earth to her centre in the system. Upon this false supposition then, that we have 190,000,000 of miles of base line by which to measure the distance to the sun, the whole of the Copernican system rests. This 190,000,000 of miles is what the editor of the Herald, or one of his writers, calls the *pocket rule*, by which to measure the distance of the stars and reduces it to a point of space. Will some one among the Copernicans please solve, fairly and irrefutably, the distance to the sun, and publish the same in this paper. A. COTTREL.

### General Taylor's Portrait.

A great variety of portraits, of all ages, sizes, faces and costumes as diverse as imagination could paint them, but all purporting to be correct likenesses of Gen Taylor, have been published and circulated: but among them all, we have seen none which appeared more stupid and ridiculous, than the one copied into the Providence Gazette from the New York Herald. These portraits all collected, would form an interesting curiosity for a museum.

### Married in the Street.

We find the following queer statement in a Western sheet: "Married, in the streets of Vicksburgh, near the Perry Landing, on Sunday the 2d inst., by N. G. Bryson, Esq., Mr. Willis G. Wheeler, of Madison county, Miss., to Miss Catharine Smith."

The parties were removing Westward, and as the boat was waiting for them, they would not take time to go to a house offered them, but, with a touch of romance, had the ceremony performed in the street, and went on their way rejoicing.

### An Old Legislator.

John Quincy Adams, who has been again nominated, and will of course be elected as Representative to Congress, is now in his eightieth year. He understands the business like a book.

### Magnetic Telegraph.

We learn from a New Orleans paper that a citizen of that place has completed his arrangements to have the "lightning express" from Philadelphia to New Orleans, and only a few months will pass before the communication is opened. The course will be through Harrisburg, Pittsburg, Wheeling, Cincinnati, Louisville, St. Louis, Nashville, Memphis, Vicksburg and Natchez, to New Orleans. One company will own to St. Louis; another the balance of the line. In a short time we may expect to find in the morning papers, the evening news from New Orleans, St. Louis and Montreal.

### The Oregon Territory.

The portion of Oregon that belongs to the United States is said to contain 200,000 square miles, which is more than six times the superficies of the State of New-York. On approaching the coast from sea, ridges of high lands appear on either hand as far as the sight extends, and the more elevated points serve as landmarks to guide the mariner through the intricate channel across the harbor of Columbia river.

### The Columbian Magazine.

The November number appears with its usual splendor and vivacity. It is embellished with three beautiful engravings,—"Doctor Johnson rescuing Oliver Goldsmith from his landlady," "Modesty and Vanity," and a plate of fashion; and contains some of the best poetry ever written or printed. Published by Israel Post, 140 Nassau street.

### Great Fire at Columbus, Georgia.

A destructive conflagration occurred at Columbus, last week, by which about 150 houses were destroyed. There was no water to be had, and every thing being dry as powder, and the buildings principally of wood, the flames spread with irresistible violence. Fifty houses are said to have been blown up in ineffectual endeavors to arrest the progress of the flames.

### General Thanksgiving.

The Governors of the States of New York, Ohio, Maryland, Michigan, New-Hampshire, and Connecticut, have united with the Governor of Massachusetts, in designating the 26th of November as a day of Thanksgiving; thus making seven States which unite in this observance.

### Camp Crockett.

This is the appropriate name which Gen. Wool has given to his camp at San Antonio, near the old site of the Alamo, where Crockett fell.

A cataract has been discovered on the river Saint Louis, where it falls into the western extremity of Lake Superior, which has never been described by any Geographer. It is said to be second only to Niagara. The volume of water is very great, and the perpendicular height of the fall one hundred and fifty feet.

Several of the package express carriers, between Boston and other places, have been indicted at Boston for carrying letters out of the mails. The Boston Postmaster is not so *Green* as they might have supposed.

The Mauch Chunk stage was upset a few days ago near Bath, while descending a hill, and was dashed into fragments. There were eleven passengers, and yet, strange to say, no lives were lost! Stage coaches are dangerous vehicles to travel in.

THE
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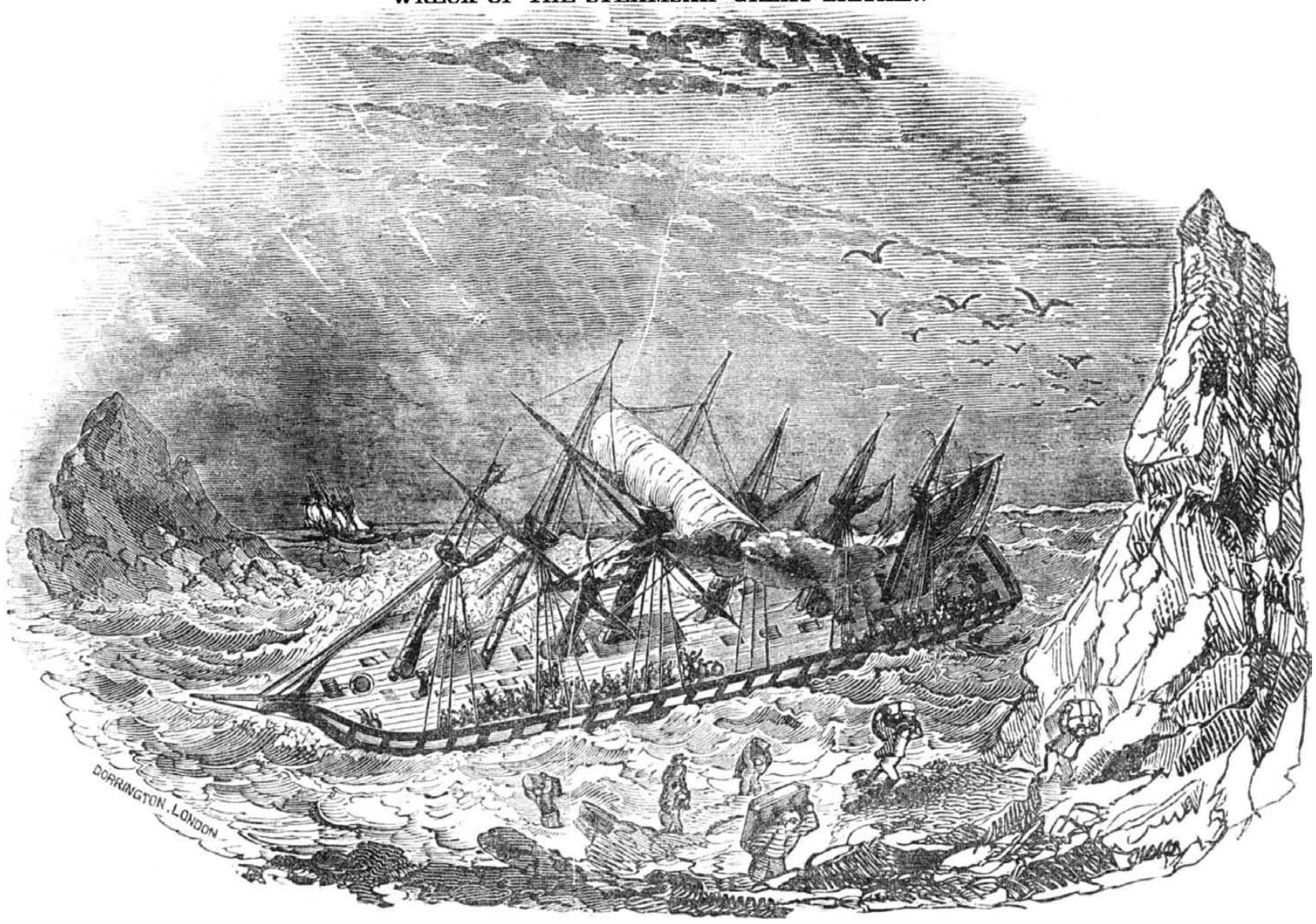
## WRECK OF THE STEAMSHIP GREAT BRITAIN.




The Steamship Great Britain, frequently denominated the "Mammoth Steamer," left Liverpool on the 22d ult., taking 185 passengers, about 60 tons of valuable fine goods as freight, and about the same measurement of passengers baggage. She took her departure, witnessed by a large concourse of spectators, amid the cheers of congregated thousands and the roar of artillery. After clearing the Bell buoy, she bore away for the Calf of Man, with the intention of running the north about passage between the Isle of Man and Ireland. The morning was beautiful, the wind was fair, the ship was in excellent trim, and she had abundant promise of a pleasant and rapid passage, and that, too, under the command of an able and experienced captain, who had most successfully, for some years, navigated the Atlantic Ocean, to the satisfaction of his passengers, the commercial public, and the company by whom he was employed. For several hours she ran at the rate of thirteen miles an hour: but about six o'clock, a storm of rain commenced and the wind increased to a gale. The ship continued to make excellent progress however, and the passengers were delighted with the excellent qualities of the vessel as a *sea boat*. At about half past nine, she had approached the Bay of Dundrum, on the Irish coast, opposite the southern shore of the Isle of Man, when the passengers were thrown into great consternation by the striking of the vessel on a hard rocky bottom, having got out of her proper course in consequence of the mistaking of a light on the coast. The storm increased accompanied with vivid flashes of lightning and loud peals of thunder. The ship soon became fast aground, while the tremendous seas constantly broke over her, and the passengers were suffering the agonies of terror approaching despair; but their fears in a measure subsided on the assurance of the Captain, that there was no danger of the ship breaking up or going to pieces, and by his evident calmness and confidence. This engraving was furnished by an English correspondent of the New York Sun, from a drawing taken on the spot, on the morning succeeding the disaster, and while the surf porters were bearing the passengers and baggage on shore. The passengers were all secured, and safely landed, and the cargo has been returned in good order to Liverpool. Most of the passengers took passage in the Caledonia, and arrived at Boston last week. Hopes are still entertained that the Great Britain will be got off and again repaired: though the general opinion appears to be that there is but a small chance. We shall be informed on that subject by the next arrival.

### The Science of Astronomy.

THE STARS.—The idea at which astronomers have arrived respecting the stars, is, that they are all of them suns resembling our own, but diminished to the appearance of mere specks of light by the great distance at which they are placed. As a necessary consequence to this supposition, it may be presumed that they are centres of light and heat to systems of revolving planets, each of which may be further presumed ao be the theatre of forms of beings, bearing some analogy to those which exist upon earth.

The stars seen by the naked eye on a clear night, are not above a thousand in number.—This, allowing a like number for the half of the sky not seen, gives about two thousand, in all, of visible stars. These are of different degrees of brilliancy, probably in the main in proportion to their respective distances from our system, but also, perhaps in some measure in proportion to their respective actual sizes. Astronomers class the stars under different *magnitudes*, not with regard to apparent size, for none of them present a measurable disc, but with a regard to the various quantities of light flowing round them: thus, there are stars of the first magnitude, the second magnitude, and so on. Only six or seven varieties of magnitude are within our natural vision; but with the the telescope vast numbers of more distant stars are brought into view; and the magnitudes are now extended by astronomers to at least sixteen.

The stars are at a distance from our system so very great, that the mind can form no idea of it. The brilliant one called Sirius, or the Dog-star, which is supposed to be the nearest, but merely because it is the most luminous, has been reckoned, by tolerably clear calculation, to give only 1-20,000,000th part of the light of the sun; hence, supposing it to be of the same size, and every other way alike, it should be distant from our earth not less than 1,960,000,000,000,000,000 miles. An attempt has been made to calculate the distance of Sirius by a trigonometrical problem. It may be readily supposed that the position of a spectator upon the earth with respect to celestial objects must vary considerably at different parts of the year: for instance, on the 21st of June, he must be in exactly the opposite part of the orbit from what he was on the 21st of December; indeed, no less than 190,000,000 of miles from it, or twice the distance of the earth from the sun. This change of position with relation to celestial objects, is called *parallax*.—Now, it has been found that Sirius is so distant, that an angle formed between it and the two extremities of the earth's orbit is too small to be appreciated. Were it so much as one second, or the 3000th part of a degree, it could be appreciated by the nice instruments we now possess; but it is not even this. It is hence concluded that Sirius must be at least 19,200,000.000 of miles distant, however much more! Supposing this to be its distance, its light would take three years to reach us, though travelling, as it does, at the rate of 192,000 miles in a second of time!

It is ascertained beyond doubt, that some stars, at one time visible, and registered by ancient astronomers, are not now to be seen; while many instances are on record of stars which have come into sight for a time and then gradually vanished. A large star suddenly became visible 125 years before Christ, and attracted the attention of Hipparchus, who was thereby induced to draw up a catalogue of stars—the first ever made. In the year 389, a star blazed forth in the constellation Aquila, and after remaining for three weeks as bright as the planet Venus, disappeared. A star appeared in the region of the heavens between Cepheus and Cassiopeia, in the years 945, 1264, and 1572, and is supposed to be one which comes within our sight every 319 years, or thereby. At its last appearance, it was very attentively observed by the celebrated Danish astronomer, Tycho Brahe, who published a volume respecting it. Its appearance was so sudden that in returning from his labaratory to his dwelling house, he found a group of country people gazing at it, and was satisfied it had not been in that quarter of the sky half an hour before.—It was then as bright as Sirius, and continued till it surpassed Jupiter when brightest, and was visible at mid-day. It disappeared entirely about eighteen months after being first observed. Another bright star appeared, in the constellation Serpentarius, in October 1604, and remained for a year.

A stalk of Indian corn has been grown in England ten feet and six inches high, and bearing twenty five ears of full size corn.

### First Sight of a Horse.

The sensation produced by the presence of the strangers had not in the least subsided at the period of our arrival at the islands. The natives still flocked in numbers about the encampment, and watched with the liveliest curiosity everything that was going forward. A blacksmith's forge, which had been set up in the shelter of a grove near the beach, attracted so great a crowd that it required the utmost efforts of the sentries posted around to keep the inquisitive multitude at a sufficient distance to allow the workmen to ply their vocation. But nothing gained so large a share of admiration as a horse, which had been brought from Valparaiso by the Achille, one of the vessels of the squadron. The animal, a remarkably fine one, had been taken ashore and stabled in a hut of cocoa-nut boughs within the fortified enclosure. Occasionally he was brought out, and being gaily caparisoned [illegible] by one of the officers at full speed [illegible] the hard sand beach. This performance was sure to be hailed with loud plaudits, and the "puarkee nuee" (big hog) was unanimously pronounced by the islanders to be the most extraordinary specimens of zoology that had ever come under their observation.—[Four Months Residence in the Marquesas.

A large alligator has been reconoitering the streets of Bayou Sara, La., for several nights in succession, as appeared by his tracks, which were distinctly seen and recognised by the citizens.

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### Late from Mexico.

By the arrival of a U. S. Cutter at New Orleans on the 18th, from Vera Cruz, advices from Mexico to the 1st October have been received. The news by this arrival is of considerable importance. The enemy is making gigantic efforts to repel our forces, but taking the result at Monterey, as a criterion, his own accounts of the siege ought to convince him that resistance is useless. It appears now by his own showing, that he had *thirteen thousand* armed men, with the assistance of the populace, against six thousand.

The principal priests delegated to represent the Mexican priesthood, have consented to raise two millions of dollars towards defraying the expenses of the war, by mortgaging their estates and other property.

The merchants in the city of Mexico have raised five hundred thousand dollars and paid it over to the government, for the purpose of carrying on the war, and promised an equal amount within the next fifteen days, besides agreeing to keep up a contribution of the same amount every month.

A letter dated at the city of Mexico, 21th of Sept., says: "It is reported that Ampudia has given up the command of the army of the North, and the succession has caused violent disputes among other principal officers. This alarming rumor has hastened the departure of Gen. Santa Anna and his army."

A letter received at Mexico from Mazatlan, states that an American frigate had entered that port and despatched five launches well armed, to capture the Mexican brig of war Maleckhadel then at anchor in the bay. The officers and crew on board the brig being totally unprepared for an attack, took to their boats in great confusion, on the appearance of the Americans. Two officers named Zerega and Cililio and several sailors, not quite so expert as their fellows in making tracks, were taken prisoners. The moment the "Yankees" found themselves masters of the vessel, they cut her cables, and made sail for the frigate. While this was going forward, an armed force and a mob asking arms wherewith to avenge so wanton an *insult* to the Mexican flag, gathered together in the Plaza, but their intended victims were soon beyond their reach.

We have intelligence from Monterey, "*California Territory*," to July 27th. On Sunday the 19th of July, Capt. Fremont and his party arrived at Monterey, and are represented to be a noble looking set of fellows, full of health and vigor. The flag of the United States is said to be now flying at Yerba, Buena, St. John's, Suter's fort on the Sacrimento, Lavriliti, Somona, and Bodega, and that the forces of the United States have quiet possession of the Bay of San Francisco, and all the country within one hundred miles around, to the manifest satisfaction of the inhabitants, many of whom have enrolled themselves under the flag and officers of these places. Many fine pieces of brass ordnance have been acquired.

Commodore Sloat had left the squadron to proceed to the Gulf, leaving Commodore Stockton in command. Com. Stockton sent off the Cyane, with Captain Fremont and 200 riflemen, to take Gen. Castro, the Mexican Governor of California, who fled south when Com. Sloat captured the sea ports. Castro had massacred three Americans, and had attempted to proscribe all who were not Catholics, but the people rebelled, under Mr. Ide, an American. They declared the territory independent, and captured Sonoma, an important town. Captain Fremont joined them, having been assailed during his geological researches by Castro. Uniting their forces, Ide and Fremont proceeded through the territory to Monterey, capturing the posts on their route, and hoisting the American flag. Fremont's little army had increased from thirty to three hundred.

We would inform those who are desirous of procuring the first volume of this paper, that we have a few more sets of 34 Nos. left, that we will sell for one dollar.

## RAILROAD INTELLIGENCE.

### Western Railroads.

There are more movements in the West toward the construction of these great instruments of commerce, says the Toledo Blade, than at any time since 1837. The railroad from Buffalo to Chicago, will exhibit more characteristics of a great trunk road than any other in the United States. More great works, made and being made along the south shore of Lake Erie, terminate on the shore of that lake than any other 300-mile line in the United States. The connecting of these by a great trunk railroad will be of immense advantage to the owners of the railroad. The south shore of Lake Michigan, every one must see will also concentrate canals and railroads to a great extent. There is, there can be no line in the United States of the same length capable of cencentrating so vast an amount of travel and trade as that between Buffalo and Chicago.

### Baltimore and Ohio Railroad.

The report presented at a recent meeting of the stockholders of this road shows a very encouraging increase of business. During the year past there were transported over the main stem, 193,916 tons of merchandise and 280,264 1-2 passengers, being an increase of 52,509 tons and 77,806 passengers. It is proposed to subscribe $35,000 to the stock of the Connellsville railroad, which is to constitute an extension of the Baltimore and Ohio road to Pittsburgh.

### Macon and Western Road.

The Marietta Hellicon says this road is now completed, and the cars are running regularly the whole distance from Savannah to Oothcaloga, the present head of the State road, being no less than 371 miles in successful operation.

### Railroad Direct between New York and Boston.

A meeting of the delegates interested or favorable to this proposed road, met at Newton, Mass., on the 17th instant. We have seen no report of the business of the meeting, but cannot doubt that progressive measures will continue till the construction of this road is accomplished.

### Pittsfield and North Adams Road.

The Pittsfield Sun says that "the laying of the rails for the main track of this road was completed at 11 o'clock, A. M. yesterday, (Tuesday,) and at half past 11, a passenger car from this place, in which were several invited gentlemen, entered the village of North Adams amid the ringing of bells and firing of cannon.

This road is 20 1-2 miles in length, is laid with a heavy T rail, and is constructed in a most faithful manner.

### Graham's Magazine.

The November number is embellished with the most brilliant engravings that have appeared for months, besides several wood cuts of American game, &c. A very attracting prospectus of the next volume, which, among the variety of embellishments, will present several mezzotints, by Mr. Sartain, which will be *Sartainly* splendid. Published by G. R. Graham & Co., 98 Chesnut st., Philadelphia.


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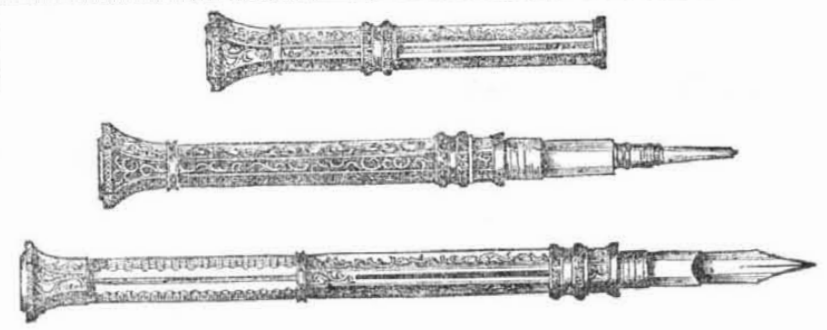


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In the short space of 2 3-4 inches is contained a Pen, Pencil, and a reserve of leads, and by one motion slides either the pen or the pencil out and extends the holder to six inches, which is but little more than half the length, when shut up, of the common pen holder, but when extended is one fourth longer. This article is secured by two patents, and the Manufacturers are now ready to receive orders for them in any quantity, either of Gold or Silver, together with his celebrated ever pointed Gold Pens, which need no proof of their superiority except the increased demand for the last six years, and the numerous attempts at imitation.

A. G. BAGLEY, No. 189 Broadway.
New York, Sept. 1, 1846. o24 tf

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They may be sent by Express, to any part of the United States. oct31 tf

THE Subscriber would respectfully give notice to those employing a steam power, and the public generally, that he has lately received Letters Patent, for certain improvements, which may be attached to steam boilers, by which accidents so destructive to life and property, by explosions, collapsing or bursting, may be remedied.

By an apparatus, simple in construction, and easily applied, the steam, when at any given height, regulates by its own action, both the steam and fire, so as to keep up a uniformity of power, so long as sufficient fuel remains in the boiler, according to my mode of construction, which is a great saving, or under the boiler in the ordinary way. With this improvement, as I have ascertained by actual experiment, if the pressure of the steam exceeds a given point, the safety valve opens, the drafts and flues close, and in a short time, and before any injury can happen, the fires will be extinguished.

By means of another apparatus, equally simple in construction and application, the boiler will receive a regular and constant supply of water, which will always remain at the required height, so long as the machinery is in operation, and when the water enters the boiler it is nearly or quite boiling hot.

These two improvements combined, constitute a complete self-regulating boiler, by which all the accidents that occur so frequently through neglect or carelessness will be prevented, and a great saving in fuel effected.

The undersigned is now prepared to make arrangements with any one who may wish to attach his patent to their boilers, and will attend as much as possible, to assist in getting the same into general use.—Drawings and specifications can be seen at the shop of Ingalls & Cushing, Peck's Wharf.

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To those desiring Drawings or Specifications, Mr. B has the pleasure of referring to Gen. Wm. Gibbs McNiel, Civil Engineer, Prof. Renwick, Columbia College, Prof Morse, Jno. Lee.

Residence, No. 10 Carroll Place; office, No. 23 Chambers street. oct10 tf

## ELECTRICITY.

SMITH'S CELEBRATED TORPEDO, OR VIBRATING ELECTRO MAGNETIC MACHINE—This instrument differs from those in ordinary use, by having a third connection with the battery, rendering them much more powerful and beneficial. As a curious Electrical Machine, they should be in the possession of every one, while their wonderful efficacy as a medical agent, renders them invaluable. They are used with extraordinary success, for the following maladies.

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STATE OF NEW YORK.

Secretary's Office, Albany, July 24, 1846.

TO the Sheriff of the City and County of New York: Sir—Notice is hereby given, that at the next General Election, to be held on the Tuesday succeeding the first Monday of November next, the following officers are to be elected, to wit:—A Governor and Lieutenant Governor of this State. 2 Canal Commissioners, to supply the place of Jonas Earll, junior, and Stephen Clark, whose terms of service will expire on the last day of December next. A Senatsr for the First Senatorial District, to supply the vacancy which will accrue by the expiration of the term of service of John A. Lott on the last day of December next. A Representative in the 30th Congress of the United States for the Third Congressional District, consisting of the 1st, 2d, 3d, 4th and 5th Wards of the City of New York. Also a Representative in the said Congress for the Fourth Congressional District, consisting of the 6th, 7th, 10th and 13th Wards of said City. Also a Representative in the said Congress for the Fifth Congressional District, consisting of the 8th, 9th and 14th Wards of said city. And also a Representative in the said Congress for the Sixth Congressional District, consisting of the 11th, 12th, 15th, 16th, 17th and 18th Wards of said City.

Also the following officers for the said County, to wit: 16 Members of Assembly, a Sheriff in the place of William Jones, whose term of service will expire on the last day of December next. A County Clerk in the place of James Conner, whose term of service will expire on the last day of December next, and a Coroner in the place of Edmund G. Rawson, whose term of service will expire on the last day of December next. Yours, respectfully,

N. S. BENTON, Secretary of State.

Sheriff's Office, New York, August 3d, 1846.

The above is published pursuant to the notice of the Secretary of State and the requirements of the statute in such case made and provided for.

WM. JONES, Sheriff
of the City and County of New York.

☞ All the public newspapers in the County will publish the above once in each week until election, and then hand in their bills so that they may be laid before the Board of Supervisors, and passed for payment.

See Revised Statutes, vol. 1, chap. vi. title 3d, article 3d—part 1st, page 140. aug18

## Engraving on Wood

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The objects of this agency are more particularly to aid and assist Inventor and Patentees in effecting sales of their inventions and of goods and wares made therewith—and also for the sale and transfer of Patent Rights.

Arrangements have been made with a lawyer familiar with the Patent Laws, who will attend to the legal branch of the business upon reasonable terms. Satisfactory references will be given. Applications may be made to the undersigned personally, or by letter, post paid. SAMUEL C. HILLS,
43-2dv6* General Patent Agent.


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### Artificial Fireworks in Miniature.

Put half a drachm of solid phosphorus into a large pint Florence flask, pour upon it a gill and a half of water, and place the whole over a spirit lamp; light the wick, which should be about half an inch from the flask, and, as soon as the water is heated, streams of fire will issue from the water by starts, resembling sky rockets; some particles will adhere to the glass, representing stars, and frequently will display brilliant rays. These appearances will continue at times till the water begins to simmer, when immediately a curious aurora borealis begins, and gradually ascends till it collects to a pointed flame; when it has continued half a minute, blow out the flame of the lamp, and the point that was formed will rush down, forming beautiful illuminated clouds of fire rolling over each other for some time, which, disappearing, a splendid hemisphere of stars presents itself; after waiting a minute or so, relight the lamp, and nearly the same phenomenon will be displayed as from the beginning. Let a repetition of lighting and relighting of the lamp be made for several times, that the stars may be increased. After the third or fourth time of blowng out the lamp, in a few moments after the internal surface of the flask is dry, many of the stars will shoot with great splendor from either side, and some of them will fire off with brilliant rays; these appearances will continue several minutes. What remains in the flask will serve for the same experiment several times, and without adding any more water. Care should be taken, after the experiment is over, to lay the flask and water in a cool place.—[Selected.

### Incombustible Wood.

The following recipe for rendering wood incombustible, has been, we believe, tested in regard to its efficacy, and although personally we have not seen it proved, think we can recommend it as being of much utility, particularly when applied to the surface of wooden roofs or other places particularly exposed to the action of fire. It is very simple in its preparation, which requires the operator merely to take a quantity of water proportionate to the surface of wood he may wish to cover, and add to it as much potash as can be dissolved therein. When the water will dissolve no more potash, stir into the solution, first, a quantity of flour paste of the consistency of common painter's size: second, a sufficiency of pure clay to render it of the consistency of cream. When the clay is well mixed, apply the preparation as before directed, to the wood; it will secure it from the action of both fire and rain. In a most violent fire, wood thus saturated may be carbonated, but it will never blaze.

### Copying Letters.

A correspondent of somebody's paper, gives a very simple process for taking copies of letters without the expense of a copying press, as follows: "A strip of muslin attached to a wooden roller, and costing certainly not more than twelve cents, answers every purpose.—The paper after being properly wetted, should be placed between the muslin and the roller; and by merely rolling the roller up, consequently pressing the paper against the letter, will take a perfect impression from it. The time necessary for doing it is also shortened. The old iron presses are very expensive and frequently break or otherwise get out of order, and will not work, whereas the other method is so simple in its operation, and so quick and effective, that we are persuaded that it only requires to be generally known to be brought into use by all, and by a great many who have not felt themselves able to purchase such a machine. It is a great saving for the clerks, and a great many merchants who have now their copying done by hand, will adopt this method when once it becomes known.

### Literary Music.

A Mr. Tibbets has introduced a method of teaching geography by singing. We think it an excellent plan, and would suggest the propriety of teaching other branches of literature, especially writing, by the same method.

### Baltimore and Cuba Copper Smelting Furnace.

Among the numerous manufacturing establishments in Baltimore and vicinity, none are of more interest or importance in their probable results, than the extensive smelting furnace erected, within the last year, by the Baltimore and Cuba Copper Company, on Whetstone Point, near Fort McHenry. Although the present supply of copper ore is obtained from the Island of Cuba, yet small quantities are also obtained from New Jersey and Virginia, and the fact of an establishment of this kind being in operation, will give an impetus to the working of native mines, that will no doubt shortly enable them to supply ores, as rich and as profitable in the working, as those received from the former place. The works already erected, consist of a large calcining furnace, two smelting furnaces and a refining furnace and three more smelting furnaces are in process or erection. The whole of these furnaces, except the one for refining, (which is in a separate building) are enclosed under a large and substantial brick building, which also contains a crushing mill, driven by a steam engine, in which the ore is ground previous to calcination.

The steam engine which drives the mill, also pumps water into a large cistern, situated between the calcining and smelting furnace, thereby reserving a part of its power, to be used in raising the calcined ore to the latter furnaces by water power, when it is not in operation, which is done in the following ingenious manner. A railroad and inclined plane extends from the calcining to the smelting furnaces, upon which is a small car, drawn by a rope or chain, extending over pullies, and attached to a large water tight box, with a valve in the bottom. When the car, with its load of roasted ore, is to be drawn up, water is made to run from the cistern into the box, which causes it to descend, drawing up the car, from which the ore is emptied into one of the smelting furnaces, when by pulling a rope, the valve is opened; allowing the water to escape, and the empty car being heavier than the empty box, descends the inclined plane to be re-filled with ore.

The ore as it comes from Cuba is of three different sizes, into which it is sorted in the process of dressing, which is done at the mines. The first size is in large lumps, the second in small pieces, about the size of filberts, and the third is the fine particles remaining after the washing operation which clears it from the earthy matter with which it is combined when it comes from the mine.—These two smaller sizes do not require to be subjected to the crushing mill. The crushing apparatus is something on the plan of a common bark mill, but smaller and stronger. The crude ore upon being passed through it, is reduced to a proper size for the calcining furnace, where it undergoes a slow roasting process, which reduces it to a dark, redish brown powder. This roasting is for the purpose of driving off the sulphur, and other volatile matter with which it is usually combined. It usual to condense this sulphurous vapor in leaden chambers forming sulphuric acid, or "oil of vitroil." The company, however, have not as yet erected condensing chambers, but we understand it is their intention ultimately to do so, when the sulphurous acid which now escapes into the air, and is lost, will it is thought go far towards defraying the expense of smelting.

After calcination, the ore is suffered to cool, and is then transferred to the smelting furnaces, where it is fused and run into large cakes, which are broken up and melted several times before the metal becomes pure. The last operation is in the refining furnace, from which it is run into convenient sized pigs, and is then ready for transportation to the brass founders, or to be manufactured into sheets for sheathing vessels or other purposes.

The European smelters who are engaged at the Baltimore and Cuba furnace, were at first much surprised at the facility with which the American ore is smelted. The process in the English mines occupying between eighty and ninety hours, while the average time at these is about fifty hours.

The location of a copper smelting furnace at Baltimore possesses advantages that are not at first apparent to persons unacquainted with the fact, that a mixture of the different kinds of copper ore much facilitates the smelting process; hence the advantage of locating where the different varieties can be conveniently obtained. Baltimore possesses this advantage in an eminent degree. The ores of Cuba, New-Jersey, Virginia, in fact the whole of the Blue Ridge, which abounds in copper, are all within striking distance, while the Baltimore and Ohio Railroad will make the ores of Missouri equally convenient. There can be no doubt therefore, but that this enterprise will be eminently successful, as well as profitable to those who have engaged in it.

### The Fly Wheel.

In all the variety of machinery and mechanical movements, there can hardly be found an article more perfectly simple than the fly-wheel, and yet there appears to be but a very small proportion of mechanics who understand the true nature and principles of it. There are some who even suppose that there is actually an increase of power, by the adoption of a *large* fly-wheel: and in nearly all cases, it is supposed that a very large and heavy-wheel will retain more of the power of momentum, than a small one. It will not be disputed that either a man or an engine may accomplish more business of some kinds by means of a fly-wheel to regulate the motion, than they could do without it. A fly-wheel is a mere momentum retainer. When power is applied to machinery through a fly-wheel, the latter at first retards the motion of the former, until a sufficient quantity of power has been accumulated in the fly-wheel to overcome the invertia thereof; and the power thus accumulated is retained in the form of momentum, and held in readiness to be applied to supply any deficiency of the applied power, to overcome the resistance of the machinery driven: and even when the first motive or moving power is witdrawn altogether, the fly-wheel will continue to supply its own accummulated power till its momentum is exhausted. But this property of retaining power, is by no means peculiar to large wheels. The momentum depends even more on the velocity than on the size or weight of the wheel, and when the velocity is doubled, the momentum is quadrupled. For example: a wheel weighing 100 lbs. being put in motion with a velocity of 1000 revolutions per minute, will furnish as much momentum as a wheel of equal diameter with a velocity of 500 revolutions, and weighing 400 lbs. And by the same rule a wheel only two feet in diameter and weighing 100 lbs. being put in motion with a velocity of 128 feet per second, will supply as much momentum power for the regulation of machinery, as a wheel eight feet in diameter and weighing 1600 lbs. with a velocity of 32 feet per second. Very few mechanics, even among those who are reputed to be scientific men, can comprehend this fact, nor will they be persuaded that a little 20-inch wheel can be made to regulate large and heavy machinery as well as a large and heavy wheel. But facts are stubborn things, and it may yet be learned by the "learned," that many superfluities of modern machinery may be dispensed with.

### Preserving Telegraph Wires.

The wires of the electric telegraph connected with the Munich and Augsburgh railroad have been covered with a coating invented by Professor Stenheil, of Munich, which possesses the virtue of protecting them from lightning, thereby greatly tending to prevent accident.

### A Transplanted Tree.

Mr. G. Jaques of Worcester, Mass., has a walnut tree which was transplanted about six years ago, being then a foot or more in diameter. It has produced a quantity of excellent shell-backs every year since it was transplanted.

### 'Fact in Philosophy."

The editor of the Buffalo Courier has seen an interesting letter from an American officer in the Pacific squadron, which states that "while in the bay of Callao he shot three seals upon the rocks, among the islands off the harbor, two of which sunk, on account of the weight of the stones they had swallowed, but the third, an old lion, (or clap match,) floated, and after towing his carcass alongside, he found his weight to be 1,029 lbs., with only three stones in his stomach, but not of sufficient weight to carry him down with the others. The alligators of the Nile and Southern States are known to have more or less of this kind of ballast aboard, it being found in them when killed and opened."

This is a singular fact in natural philosophy, and shows in a remarkable manner the intelligence of seals. They have undoubtedly the repugnance which all intelligent animals feel at having their carcasses "cut up," whether to supply mental light or medical tyros, or the oleaginous substance which dispels the natural darkness. Hence they swallow enormous stones, that when they are shot their bodies will immediately sink to a secure grave in the depths of the deep. The Indians always run off with the dead bodies of their friends, to prevent them falling into the hands of their enemies.

### Velocity of a cannon ball or shot.

When the mammoth cannon was recently proved at South Boston, the heaviest shell was thrown about three miles, and the time occupied in its journey was a minute and a half. Thus it appears that its velocity was only about double that of some of the English railroad expressos.

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